principally of a media, composed of formed connective tissue, in which muscular fibres are distributed irregularly, both as to location and direction. There is neither elastic interna nor elastic fibre, and the lumen of the vessel is very uneven in calibre. The tissue of the cord is not in any way firmly connected with the wall of the vein, either at the umbilicus or in the cord. In the first months of extra-uterine life we find the umbilicus closed, and a mass of connective tissue filling up the whole space between the muscular recti, and uniting the skin above on each side and the sheaths of the recti. In the upper part of this umbilical cicatrix we find a very thin plate of tissue, and beneath this the loose fascia umbilicalis in which are found the obliterated umbilical vein not in any way connected with the surrounding tissue In longitudinal sections in older children, strong bands of connective tissue seem to pass from the inferior part of the umbilical ring to the skin, while in the superior part of the umbilicus we find weak strands passing to the umbilical cicatrix, which are, however, firmly connected. A hernia would find the least resistance between the inferior connective tissue mass and the upper border of the umbilical ring, and passes in this direction. In this manner the formation of herniæ depends upon the changes which take place around the blood vessels. The umbilicus is not a new structure but simply a conversion of the fœtal embryonal tissue of the cord and its structures into formed connective tissue.—*Beilage zum Centralbl f. Chir.*, No. 25, 1890

VI. Operations Upon the Intestine in Cases of Stricture and Stenosis with Special Reference to Carcinoma of the Intestine. By DR. KOENIG (Gottingen). During the past 10 years, 14 laparotomies were performed in cases which were thought to be intestinal stenoses, caused by the presence of intestinal tumors. In one case the obstruction was caused by a bridge of tissue (a band) across the flexura coli, in 13 cases there was disease of the intestines. Ten of these cases were carcinoma of the large intestine, 3 cæcum, 1 colon ascendens, 2 colon transversus, 4 descendens. Two cases were sarcoma of the small intestine, and once stenosing tuberculosis Of these cases 3 were not carried out farther than an exploratory incision.

In 3 cases an artificial anus was established; of the above, 3 patients died. In seven cases, resection of the gut was performed (in 4 with consecutive suture). Of the latter 4, 2 died. In 3 cases, the pieces of gut could not be united, and an artificial anus was formed. Of these cases, 2 died after operation and 1 died after a year, of a return of disease. The great majority of stenosing tumors are carcinomatous. The most lie adjacent to the abdominal walls, being tumors of the colon, and are movable.

They may be mistaken for tumors of the abdominal wall, when adherent. If they are adherent to the stomach and omentum, the difficulties of diagnosis are increased, the tumors moving with the diaphragm. The symptoms are various; at times increasing constipation, colicky pains caused either by the accumulation of fluid masses in the intestine above the stenosis, or by invaginations in the vicinity of the growth. Hæmorrhages are present in only one half of the cases. The operative treatment is the only effective one. Laparotomy is performed, but whether suture of the gut after extirpation, or resection, or an artificial anus should be done must be decided by the individual case. It also must be indicated in the present status of learning whether the median or lateral incision is the best in laparotomy. Author's experience favors an incision over the tumor. The thickness of the abdominal walls and the covering of fat is to be considered. On exposing the tumor it should be freed from its adhesions and brought outside the abdomen, and operated upon there. The glands, if possible, should be removed from the omentum, though in the same cases it is not possible to remove all the omentum (gangrene of the gut).

The tumor having been brought outside the abdomen, the intestinal temporary sutures are applied, the surface of the gut thickly smeared with boric ointment (so as to insure rapidly flowing off of contents of gut should these escape),and gauze is placed all around the base of the gut. The extirpation of the gut is begun by forcing the fæces into the part to be resected and received over a disinfected basin, then the diseased gut is extirpated well into the healthy region and the parts cleaned. The catgut sutures are passed through the mucosa first, beginning opposite the mesentery and being tied from within as much as possible. Then the sutures into the serosa are applied in the familiar way. Fine catgut or fine silk is used for this latter work. The gut is now cleaned and replaced,and an exact suture placed upon the abdominal wound. In those cases where muscle has been divided peritoneum is first sewed with catgut suture, then the muscle and then the skin-muscle are finally included in a strong silk suture. These remain 3 or 4 weeks.—*Beilage zum Centralbl. f. Chir.*, No. 25, 1890.

VII. Macewen's Radical Operation for Hernia. By Dr. LAUENSTEIN (Hambug). Author had become acquainted with Macewen's operation in 1888, in Glasgow, where Macewen presented two dozen patients of the working class on whom he had operated from 4 to 8 years previously. The patients had continued to perform heavy work since operation, without using a truss, and showed no return of their hernias. At this time Macewen presented a preparation taken from a patient operated on 4 years previously for a large irreducible hernia. The patient had pursued his occupation of barrow-bunter, and had died of a rupture of an aortic aneurysm. On autopsy it was seen that the hernial opening was well closed and strongly supported by the cushions formed of the hernial sac. Macewen's results are as follows: He operated upon 98 cases from March, 1879, to the beginning of 1890; of these 64 were incarcerated (of which 1 was direct and 4 congenital), 16 strangulated inguinal, 4 were non-strangulated and 14 strangulated femoral hernias. Of all these cases only a 3-year old boy died from an attack of scarlet fever at a time when this disease was epidemic in the hospital. Of all the cases, only one in a 3-year old boy with a large irreducible hernia had a bad result. A few days after operation an acute hydrocephalus developed, the wound did not heal and the sutures were removed. The testis was removed twice; once it was cystic, in the other case atrophic. Among the strangulated herniæ was one in a coachman, æt. 52 years, who, 14 days after the operation, left his bed, and carried a heavy basket; a return of the hernia resulted, which was, however, definitely cured by a second operation. Of all the others, none had a return of disease, though the majority wore no truss.